

## Glen Canyon Dam Technical Work Group Meeting

June 20-21, 2012

**Conducting:** Shane Capron, Chairperson  
Facilitator: The Mary Orton Company, LLC

**Convened:** 9:40 a.m.

### **Committee Members/Alternates Present:**

Jan Balsom, NPS/GRCA  
Cliff Barrett, UAMPS  
Kerry Christensen, Hualapai Tribe  
Jerry Lee Cox, Grand Canyon River Guides  
Kevin Dahl, Grand Canyon Trust  
Craig Ellsworth, WAPA  
Paul Harms, State of New Mexico  
Chris Harris, State of California  
Amy Heuslein, BIA  
Chris Hughes, NPS/GLCA

Leslie James, CREDA  
Vineetha Kartha, State of Arizona  
Glen Knowles, U.S. Bureau of Reclamation  
Ted Kowalski, State of Colorado  
Gerald Myers, Federation of Fly Fishers  
Larry Stevens, GCWC  
Bill Stewart, AGFD  
Jason Thirirot, State of Nevada  
Randy Van Haverbeke, USFWS  
Michael Yeatts, Hopi Tribe

### **Committee Members Absent:**

Charley Bullets, Southern Paiute Consortium  
Kurt Dongoske, Pueblo of Zuni  
Alan Downer, Navajo Nation  
Tony H. Joe, Jr., Navajo Nation  
Robert King, State of Utah

Nikolai Lash, Grand Canyon Trust  
Don Ostler, Upper Colorado River Commission  
McClain Peterson, State of Nevada  
John Shields, State of Wyoming

### **Grand Canyon Monitoring and Research Center:**

Helen Fairley, Program Manager  
Jack Schmidt, Chief

Scott Vanderkooi, Program Manager

### **Interested Persons:**

Mary Barger, USBR  
Peter Bungart, Hualapai Tribe  
Lori Caramanian, DOI  
Dr. Melanie Culver, University of Arizona  
Evelyn Erlandsen, ADWR  
Dave Garrett, M<sup>3</sup>Research/Science Advisors

John Halliday, DOI  
Jayne Harkins, State of Nevada  
John Jordan, Federation of Fly Fishers  
Seth Shanahan, SNWA  
Jeff Sorensen, AGFD  
Dave Trueman, USBR (via phone)

**Meeting Recorder:** Linda Whetton

**Welcome and Administrative.** Shane Capron welcomed the members and the public. Even though he has been officially appointed as the TWG member from WAPA, Shane said he would serve as the TWG chair at today's meeting while Craig Ellsworth, the newly-appointed alternate, would represent WAPA. Mary Orton reviewed changes to the agenda.

1. Approval of April 16-17, 2012, Meeting Minutes will be handled at October 2012 TWG meeting.
2. Review of Action Items (**Attachment 1**)
3. Old Business
  - Ad Hoc Group Updates - This also includes new OPAHG information (**Attachment 2**).
  - Two EAs, LTEMP EIS – Glen said Reclamation executed final Memoranda of Agreement and FONSI documents for both EAs on May 22, 2012. The Secretary of the Interior also established the DOI Glen Canyon Leadership Team (**Attachment 3**) to implement the HFE Protocol and the NNFC FONSIs.
    - In response to a concern about whirling disease, Bill Stewart said 90 fish were sent to a lab in Washington and 5 of 18 groups tested positive for whirling disease. The locations were up and down Lees Ferry. It's the only water in Arizona that has whirling disease they know of right now.

- Jan said the NPS is currently accepting comments on the development of a fisheries management plan for waters between Glen Canyon Dam and Lake Mead within the Grand Canyon National Park and Glen Canyon National Recreation Area.
- An LTEMP alternatives webinar was held on June 8. Only slight changes made to the alternatives the public saw in April. Comments and additional alternatives will be accepted from the public until July 22. A public “informational” meeting will be held August 22-23 in Flagstaff in order to present the science most relevant to the LTEMP EIS. A draft EIS should be available by December 2012, followed by a public draft available in Feb-Mar 2013, and then the final EIS by end of 2013.

#### 4. New Business

- Reclamation Razorback Sucker Work Update – Currently there are 16 sonic tagged (adult RBS) fish in the Colorado River inflow area. They also have sonic receivers at Pierce Ferry and Quartermaster Canyons that can detect fish moving past those receivers. So far, they have 31 new wild RBS downstream of Pierce. There were also 15 tagged fish that were recaptured in Lake Mead that moved into that area. They detected 115 larval RBS since the work began so it appears spawning is occurring and possibly recruitment given the number of untagged adult fish. They’ve captured 452 larval RBS since monitoring began in 1996 at Lake Mead and 359 of those have been recaptured. They had three RBS detected moving past Pierce Ferry and one of the fish had moved all the way up to Quartermaster. Putting that in perspective Diamond Creek is at about RM 226 and Quartermaster is at River Mile 260 and Pierce is at 280 so they’re moving up a fair distance into the inflow area. A presentation will be given later this year.
- Next TWG Meeting – October 24-25, 2012, at Arizona Department of Water Resources

**ACTION:** Shane will check on holding a webinar next week for a whirling disease update.

**Hydrograph Presentation:** Glen referenced the DOI/DOE hydrograph recommendation for Water Year 2012 (**Attachment 4a**) and gave a PPT presentation which included a proposed motion (**Attachment 4b**) for the TWG’s consideration. Reclamation proposes to use a similar design to FY 2012 Hydrograph developed by DOI Team and recommended by AMWG, the “Targeted Method”:

- August releases are limited using percentage method to conserve sediment inputs with an emphasis on the primary sediment input period of August-October.
- Only September and October would differ from the 2012 Hydrograph because they will not be steady, but will revert to ROD fluctuations.
- September and October releases would be adjusted to the forecast as follows:
  - 600 kaf/month for annual releases at or below 9.0 maf
  - 700 kaf/month for annual release above 9.0 maf up to 10.0 maf
  - 800 kaf/month for annual release above 10.0 maf up to 11.0 maf
  - 900 kaf/month for annual release above 11.0 maf up to 12.0 maf
  - Up to powerplant capacity for high equalization releases

Dave Trueman (via phone) said the October releases could be lowered because it’s the beginning of a new water year and there isn’t a snowpack. He suggested striking the words “and October” from the above description since this is really a schedule for September releases. The volume of releases in September is usually fairly low and Reclamation tries to hold it low so there’s not as much erosion going on in September as there is August.

**Motion** (proposed by Kerry Christensen, seconded by Larry Stevens): TWG recommends to the AMWG to recommend to the Secretary of the Interior his approval of the DOI-DOE Proposed Hydrograph for Water Year 2013 as follows:

- Monthly Release Volumes will be adjusted each month based on the most current forecast of the annual release required by the 2007 Interim Guidelines.
- Monthly Release Volumes are anticipated to vary within the targets identified for each month as set forth below. This monthly operational flexibility will be used for existing power production

operations under the Modified Low Fluctuating Flow (MLFF) alternative selected by the 1996 ROD and contained in the 1995 FEIS. The targeted operation will also be adjusted as necessary to accommodate a targeted release volume for the month of August 2013 based on the schedule below:

- January: August 2012 Volume target set to greater of 800 kaf or 10% remaining annual release volume.
- February: August 2012 Volume target set to greater of 800 kaf or 10% remaining annual release volume.
- March: August 2012 Volume target set to greater of 800 kaf or 12% remaining annual release volume.
- April: August 2012 Volume target set to greater of 800 kaf or 15% remaining annual release volume.
- May: August 2012 Volume target set to greater of 800 kaf or 20% remaining annual release volume.
- June: August 2012 Volume target set to greater of 800 kaf or 25% remaining annual release volume.
- July: August 2012 Volume target set to greater of 800 kaf or 40% remaining annual release volume.
- August: Release volume established as 100% of remaining annual release volume (release could be less than 800 kaf in some cases).

Remaining Annual Release Volume - will be computed as the projected WY2013 annual release volume pursuant to the Interim Guidelines less volume already released in WY2013 less the September 2013 release target volume (below).

The 2013 September Release Target Volume - will be adjusted with the forecast to:

600 kaf/month for annual releases **at or** below 9.0 maf  
700 kaf/month for annual release above 9.0 maf up to 10.0 maf  
800 kaf/month for annual release above 10.0 maf up to 11.0 maf  
900 kaf/month for annual release above 11.0 maf up to 12.0 maf  
Up to powerplant capacity for high equalization releases

- Monthly release volumes will be modified each month in consultation with Western Area Power Administration.
- Additionally, the Bureau of Reclamation will continue to apply best professional judgment in conducting actual operations and in response to changing conditions throughout the water year. Such efforts will continue to be undertaken in coordination with the DOI/DOE, agencies, and after consultation with the basin states as appropriate, to consider changing conditions and adjust projected operations in a manner consistent with the objectives of these parameters as stated above and pursuant to the Law of the River.

Mary reviewed the instructions for getting to consensus on the motion by using the colored cards: **red** = I can't live with it, **yellow** = I can live with it but not intending to block consensus, and **green** = It's great, let's move forward). The group raised their cards. Noting there were two concerns, those members offered the following changes to the motion: (1) adding the words "600 kaf/month for annual releases **at or below 9.0 maf**" and, (2) in the last paragraph, "... agencies, **and after consultation with the basin states as appropriate**,..." The latter language presented by Ted Kowalski to ensure the Bureau of Reclamation will be compliant with their consultation requirements with the states as defined in the 2007 Interim Guidelines. The changes were made and the above motion was passed by consensus.

**Biological Boundaries and Conservation of the Kanab Ambersnail.** Dr. Melanie Culver gave a PPT presentation (**Attachment 5**). This project was started approximately four to five years ago and raised a number of questions which meant they needed more samples to test. The work has been completed and

a peer review publication is being prepared. The study included genetic data from mitochondrial DNA and nuclear DNA and some anatomical analyses. She provided the following conclusions:

- Extensive gene flow observed among *Oxyloma* populations in Arizona and Utah
- One taxonomic group (species-level) indicated
- Evidence for short and long distance dispersal
- How to explain dispersal?
  - Short distance may be river flow mediated (Lee's – Vasey's)
  - Long distance may be bird transport (highly divergent lineages found in same geographic location)
- Unique dispersal strategy
  - *Oxyloma* are hermaphrodites
  - *Oxyloma* are capable of self fertilization
  - One immigrant can found a population
  - Genetic bottlenecks (and drift) are probably a common occurrence

The genetics policy states that genetic differences must be addressed during the listing process to determine the taxa being listed and no further revision of taxa is allowable due to genetic data. Under this policy of no revisions only delisting or re-listing as different taxa is allowable.

Scott said there are a few remaining items to be addressed before it becomes an Open File Report. As to making delisting decisions, that would be up to the USFWS.

**Fish PEP Monitoring.** Dr. Scott Vanderkooi said the Fish PEP completed its work in 2009 (**Attachment 6a**) and gave a PPT presentation (**Attachment 6b**) with GCMRC responses to the PEP's recommendations.

Comments:

- *Need to have this information incorporated into fish management plans.*
- *The management components seem to focus on monitoring trout rather than setting up a sampling program to look at invasive species.*
- *Status of Chute Falls Translocation Program in the budget*
- *Per Martell work, the issue of sampling bias potentially affecting things (LCR monitoring programs)*
- *Need to understand negative impacts of over handling HBC*
- *Duplicity of sampling*
- *Need to consider other methods of fishing instead of electrofishing such as using screw traps, weirs, etc.*

**ACTION:** Shane will look into having the Chute Falls Translocation work included in the Draft BWP.

**CRAHG Response to TWG Motion.** Because Kurt Dongoske was unable to attend today's meeting, Mary Barger distributed copies of the CRAHG report and gave a PPT presentation (**Attachment 7a**). The CRAHG recognized that whatever recommendations the ad hoc group generates and brings back to the TWG, they will ultimately be reviewed and acted upon by the AMWG and could significantly be affected by the new Department of the Interior's Policy on Consultation with Indian Tribes issued in December of 2011 and Secretarial Order 3317. In responding to the two questions posed in the motion (1) How should the program fairly treat conflicts of cultural values, specifically those involving Native American perspectives, and (2) How will Tribal Values be monitored and tracked in this program, the CRAHG offered the following recommendations:

1. Consensus Building and Collaboration.
  - It's imperative to understand the others' points of view and find ways to address everyone's interests.
  - Instead of determining what proposal will achieve the number of votes required, every point of view is considered and the focus is how everyone's interests can be addressed in proposal.
  - Determine ways to increase opportunities for dialogue among stakeholders where important issues are at stake.
  - Day trips or AMWG and TWG meetings on reservations, at the Park, and on the river would enhance mutual understanding of tribal cultures and other stakeholders.

2. Openness and Transparency
  - o Federal agencies should explain their decisions to the other stakeholders
  - o When undertaking an initiative that stakeholders may be interested in, the federal agencies should begin a dialogue early and not wait for an AMWG or TWG meeting.
3. Dispute Resolution
  - o AMP should adopt a dispute resolution process that stakeholders may invoke if any feel their views are being represented.
4. Monitoring and Tracking Tribal Values
  - o Include TEK integration process into the GCMRC's science program as a pilot TEK
  - o The program track in an annual report how often the dispute resolution process was invoked.

Shane said a third task assigned to the CRAHG was how TEK should be integrated into the GCDAMP science program. Helen said the DOI agencies reviewed a position statement prepared by the tribes and felt a few specific recommendations were very doable in the near term but needed more fleshing out. Shane suggested forming an ad hoc group for the purpose of going through the recommendations in more detail but felt the group may still have difficulty reaching consensus on specific issues. Because the TWG Operating Procedures could help them in their deliberations, he felt a review of those should be undertaken as soon as possible with inclusion of the CRAHG recommendations.

The TWG formed the Operating Procedures Ad Hoc Group (OPAHG). Membership: Chris Harris (chair), Cliff Barrett, Shane Capron, Kevin Dahl, Craig Ellsworth, Chris Hughes, Glen Knowles, Vineetha Kartha, Jason Thriot, and the CRAHG (**Attachment 7b**)

Shane said he would inform the AMWG in August that the TWG had received the CRAHG report and were working through the recommendations. Lori told the group Anne Castle had read the report and was very impressed by the amount of work that had gone into it. She reminded the TWG that Ms. Castle has worked diligently to help the AMWG develop consensus and would be very supportive of this new ad hoc group effort. Ms. Orton said if her contract has sufficient funding, she would like to assist the ad hoc group in this collaborative process.

Current CRAHG Assignments:

1. How should TEK be integrated into the GCDAMP science program?
2. AMWG requests the CRAHG compare the existing draft tribal consultation documents with Secretarial Order 3317 and the DOI tribal consultation policy, and make a recommendation through the TWG to the AMWG by its August meeting for an AMP tribal consultation policy.
3. Tribes should be included in the process as equal partners in the program. Specifically, tribes, as sovereign governments, should participate in the earliest moments of development of programs, projects, and budgets.

**ACTION:** Shane will prepare a statement identifying the purpose of the new TWG Operating Procedures Ad Hoc Group (OPAHG).

**FY2013-14 Draft Biennial Budget and Work Plan (Attachment 8a)**. Following up on his June 15<sup>th</sup> e-mail with the BAHG recommendation, Shane said the remainder of the meeting would focus on preparing a recommendation on the FY2013-14 budget to the AMWG. If there are unresolved technical issues, they would be forwarded to Lori Caramanian for DOI to consider. If there are unresolved policy issues, they would be sent to the AMWG along with the TWG's budget recommendation. Ms. Orton went through the steps leading up to the FY2013-14 budget. Without recounting all the e-mails that were sent soliciting comments and issues, she said that since February there have been three BAHG webinar/ conference calls. A lot of comments were sent to the Deputy AS-WS Lori Caramanian and a response (**Attachment 8b**) was provided to the TWG on June 15, 2012. Mary said Dr. Schmidt was not planning to give another presentation on GCMRC's portion of the budget but would be available to answer any questions.

She distributed copies of the document, "Issues to be Addressed at the TWG Meeting, June 20-21, 2012" (**Attachment 8c**) and said there are still some outstanding questions and issues. As a result, there are nine questions to be answered or that may turn into technical or policy issues, and five additional technical issues to be discussed.

**Reclamation Budget Update.** Because he had already made several presentations on Reclamation's budget in previous settings, Glen gave a brief PPT presentation (**Attachment 8d**). He provided the following updates:

- POAHG Budget – Sam Jansen will be working with the group to develop a budget.
- Personnel Costs – There has been a federal pay freeze for FY11 and FY12 and the question came up as to whether Reclamation had adjusted the salaries in several line items. Congress has taken some action and the House passed a bill that would maintain the federal salary freeze in FY13. The Senate rejected a bill that would've done the same thing. President Obama has proposed a .05% increase for FY13. However, Reclamation did index those costs by 3% CPI FY13-14. Any funds not expended for FY13-14, which is about \$13K, goes back into the basin fund.
- Tribal Contracts – The issue of increasing these by the CPI was addressed in Ms. Caramanian's 6/15/12 memo. As a result of declining DOI budgets and increased fixed costs, it's not economically feasible to add CPI to the tribal contracts as this time.
- Cultural Program – Conversations have only recently been started on: (1) Implementation of HFE Protocol MOA, (2) Documentation of Associative Values, (3) Non-native Fish Control Consultation, (4) GCMRC Monitoring Support, (5) Traditional Ecological Knowledge Pilot Project, and (6) Implementation of LTEMP Recommendations.

**Comments:**

- *Line item for implementation of a treatment plan in FY12 was budgeted at \$515K. The focus of the FY13-14 budget is on the two MOAs, but that doesn't relieve program's responsibility to address impacted sites under the original PA.*
- *Budget is being prioritized for sites in the past that haven't been impacted by high flows and not going after sites that were already identified under the treatment plan.*
- *Need for pre-, during, and post-interpretation of individual sites and being able to have input during that process along with education and incorporation of associative values.*

**Science Advisor Review of Budget.** In addition to the Science Advisors review dated June 18, 2012, Dr. Garrett gave a PPT presentation (**Attachment 8e**). Normally there are five science advisors operating on a review but because of the new directions in competition, habitat, foodbase, and new work on juveniles, two additional scientists were brought in to assist. The group was charged to evaluate how the projects linked to the goals and objectives and assess the application of adaptive management. He said there were comments and questions provided from each reviewer. The following recommendations were made:

- Add a first chapter that defines stakeholder goals, objectives, DFCs etc., AM processes, and ecosystem science design
- Provide linkages to new chapter as in Project B and 2007 Strategic Science Plan
- Complete a USGS KA report
- Conduct program level statistic/biometrics assessment for sampling, analysis, modeling
- Conduct a Probabilistic Risk Assessment and Benefit/Cost Assessment of the overall program

**Comments:**

- *Adopting an ecosystem approach is a higher priority than a 2-year plan.*
- *Need a cultural expert on the Science Advisors board.*

**Adjourned:** 5 p.m.

**Glen Canyon Dam Technical Work Group Meeting**  
June 20-21, 2012

**Conducting:** Shane Capron, Chairperson  
Facilitator: The Mary Orton Company, LLC

**Convened:** 8:10 a.m.

**Committee Members/Alternates Present:**

Jan Balsom, NPS/GRCA  
Cliff Barrett, UAMPS  
Kerry Christensen, Hualapai Tribe  
Jerry Lee Cox, Grand Canyon River Guides  
Kevin Dahl, Grand Canyon Trust  
Craig Ellsworth, WAPA  
Paul Harms, State of New Mexico  
Chris Harris, State of California  
Amy Heuslein, BIA  
Chris Hughes, NPS/GLCA  
Leslie James, CREDA

Vineetha Kartha, State of Arizona  
Glen Knowles, U.S. Bureau of Reclamation  
Ted Kowalski, State of Colorado  
Gerald Myers, Federation of Fly Fishers  
LeAnn Skrzynski, Southern Paiute Consortium  
Larry Stevens, GCWC  
Bill Stewart, AGFD  
Jason Thiriot, State of Nevada  
Randy Van Haverbeke, USFWS  
Michael Yeatts, Hopi Tribe

**Committee Members Absent:**

Charley Bullets, Southern Paiute Consortium  
Kurt Dongoske, Pueblo of Zuni  
Alan Downer, Navajo Nation  
Tony H. Joe, Jr., Navajo Nation

Robert King, State of Utah  
Nikolai Lash, Grand Canyon Trust  
McClain Peterson, State of Nevada  
John Shields, WY State Engineer's Office

**Grand Canyon Monitoring and Research Center:**

Helen Fairley, USGS/GCMRC  
Jack Schmidt, USGS/GCMRC  
Scott Vanderkooi, USGS/GCMRC

**Interested Persons:**

Mary Barger, USBR  
Peter Bungart, Hualapai Tribe  
Dave Garrett, M<sup>3</sup>Research/Science Advisors

John Halliday, DOI  
John Jordan, Federation of Fly Fishers  
Seth Shanahan, SNWA

**Meeting Recorder:** Linda Whetton

**Welcome and Administrative.** Shane Capron welcomed the members and the public.

**TWG Chair Election.** Glen opened up the floor for TWG chair nominations. Larry Stevens suggested Mary Orton since it's not prohibited in the TWG bylaws and she has the necessary skills and experience. It would also remove any organizational bias from the position which he felt would be advantageous to the group. Glen said it was something that could be considered but said the operating procedures state the TWG will elect its own officers. From his perspective, if people sitting at the table really value that position, they would see the importance of electing their own chair. He thanked Shane for all he has done in the last few years and said he has done a wonderful job and has set the bar pretty high for anyone taking on the responsibility. He said it's important for the TWG chair to be a facilitator, to be a good listener, and make sure that everyone has an opportunity to speak and help decisions to be made by this body and to transmit the decisions or recommendations of the TWG to the AMWG. Shane isn't leaving the program but will remain on the TWG as Western's representative. Reclamation is also looking at ways to retain Mary Orton as a facilitator and Glen will continue to serve as the TWG co-chair. Shane added it would be difficult to have Mary serve as the TWG chair because there are times when the TWG has to make a choice and that choice is built on having everyone's buy-in. He said if Mary is the TWG chair, then the group loses her as the meeting facilitator. He said there is a lot of behind-the-scenes work he does with Mary and would like to see her continue to be that resource.

Hearing no nominations, Glen asked Shane if he would stay on through the October meeting and then open up the election process again. Shane said he is willing to do that but needs approval from his supervisor.

**ACTION:** Shane will check with his supervisor on whether he can continue to serve as the TWG Chair through October 2012.

**FY2013-14 Budget Discussion** (cont.) Shane said they could tackle new issues and getting some clarification on them.

**Response to SA Review.** Jack said he wanted to offer some comments on Dr. Garrett's presentation yesterday. Even though he felt a little *sticker shock* after reading the report, he feels that critical peer review is the essence of this program and makes the process better. He said a lot of details were edited from the first draft of the BWP, but they can be added back in to be responsive to the SA recommendations. He said he tried to make the BWP a higher level document than in the 2010 and wanted to assure people their concerns are taken seriously. Two things that didn't get remarked on yesterday was AS-WS Castle's guidance memo on the program's priorities (**Attachment 8f**), and the DFC Report. While people may have different priorities, he is obligated to use the DFCs in preparing a budget and work plan. He said that Helen, Scott, and other GCRMC staff are to be congratulated for their hard work in developing the BWP. He said the next iteration of the BWP will incorporate comments from the SA and others in the program.

Larry commended Jack and his staff for the work they did in preparing the budget in such a short time frame. He doesn't want to see endless listing of the relationship of these questions to all the science and policy issues and suggested the next budget revision include that information in table format. Jan said that while there may have been some missing pieces, she thought it was very well done and will contribute to work being done on the LTEMP EIS and future monitoring and research efforts.

Ms. Orton provided a copy of the documents that include draft motions and continuing questions (**Attachment 8g**). This will be used to guide today's budget discussion. She asked if there were any new issues and the following were offered:

- *Project I, riparian ecology. Discuss the logic and justifications. Need to understand the physiology of the plans. Methods do not seem adequate. (Stevens)*
- *Any budget motion we pass today should include "subject to review." (Kowalski)*
- *Administration history project. Following up to AMWG motion. How do we accomplish it? (Stevens)*

General:

1. **What recommendations from the Socioeconomic Ad Hoc Group will be addressed in the budget?** The DOI Interagency LTEMP team has been requested to give an update on their progress determining the socioeconomics issues that will be addressed under LTEMP.  
*Answer: DOI is still working on it; no clear answer yet. There will probably be a response in the next couple of weeks. The SEAHG may meet with GCMRC by webinar to determine whether budget changes are warranted after that information is shared.*
2. **Has the federal salary freeze been reflected in the Reclamation salaries in this BWP?**  
Glen Knowles will report whether the Reclamation FY13-14 budget includes the freeze.  
*Answer: Reclamation salaries are indexed by CPI for FY13-14. \$13,000 in FY13, same in FY14. Would go back into the Basin Fund if it is not spent.*
3. **P. 12: Recommend that until the POAHG has a specific work plan recommendation with deliverables, this activity be reduced, with the funding potentially provided to have a synthesis of the Knowledge Assessment workshops completed this year.**

It is unlikely that POAHG will have a budget completed before the TWG meeting. However, the chair expects to have it completed before the AMWG meeting in August.

Answer: DOI is still working on it; no clear answer yet. There will probably be a response in the next couple of weeks.

### Project C

4. **Page 96, clarifying question: Please clarify the statement “Equalization resulted in the evacuation of cold water from deep portions of the reservoir. These unusual conditions resulted in the warmest release temperatures since 2005, reaching 15.2°C on November 12, 2011, in spite of higher reservoir elevations.**

NOTE: This issue was not addressed at the BAHG.

Jack: this was odd but happened as described. Jack will consider adding more information.

### Project F

5. **P. 138: F.7.1 – This sentence doesn’t seem to fit together: “Monitoring will focus on midday collections because drift rates tend to be more variable, but higher, during nighttime hours. Seven samples will be collected every six weeks from each location.” Is it important to sample midday because of variability, or better at night?**

NOTE: This issue was not addressed at the BAHG.

Answer: Scott – drift rates are steadier, more consistent during the day, so we prefer to sample then. Will make sure this sentence is more clear.

6. **P. 135: F.4.3 – We had been promised by FWS and GCMRC a Chute Falls translocation plan before the next budget cycle. It appears that document has not been prepared and no mention of it is in the description. Please clarify when we can expect to see a Chute Falls translocation plan? We believe it is important to understand the goals of the project, methods, research plan, important results to date, rationale for continuing it, etc. The second to last sentence on the next page talks about a peer review; that would be helpful, but we think a draft translocation plan would be a good starting point.**

NOTE: This issue was not addressed at the BAHG.

Answer: GCMRC will add to workplan: GCMRC, NPS, and USFWS will work on finalizing this plan.

### Project J

7. **P. 198: On the bottom of the page this research question is highlighted, “Therefore, a key research question that needs to be resolved is not whether cultural sites are eroding or otherwise changing but whether they are eroding or changing faster or in a significantly different manner than they would if the dam were not present or was operated differently than it has been up until now.” – Question, is this the right question? I understand that we want to understand changes if the dam were operated differently. Is it appropriate to have the larger question, if the dam were not present?**

NOTE: This issue was not addressed at the BAHG.

Answer: GCMRC does not believe that all changes are due to the dam. This question, however, is important to consider in order to help clarify and understand the changes due to the dam’s existence as well as its operations. Project J-3 is funded at \$160,000 by Reclamation. Jack acknowledged the sensitivities and said he would change the language. His motivation was that he didn’t want the dam blamed for all erosion in the Grand Canyon.

### Project L

8. **P. 233: Table, in the line starting “Participation in phone calls...,” “50%” should be changed to “5%.”**

NOTE: This issue was not addressed at the BAHG.

Answer: GCMRC will look into it.

9. **Many river trips are identified in this work plan. A table of proposed projects and the time of year when these trips would take place would be helpful to determine whether we have the logistical support to conduct all this work, especially if non-native control takes place.**

Answer: A table is under development and will be included in the BWP.

### **BOR Budget and Workplan**

10. **P. 6: Consider changing “Experimental Carryover Funds” to “Experimental Funds” and changing “Native Fish Conservation Contingency Fund” to “Native Fish Conservation Contingency Fund Carryover”. Rationale: the experimental fund is an annual fund, when it carries over it goes to the native fish line.**

NOTE: This issue was not addressed at the BAHG.

Glen: make sense, will make those changes.

11. **SAs' involvement in the LTEMP**

Leslie James and Don Ostler will present a proposal for the SAs' involvement in the LTEMP for a possible recommendation to AMWG.

From Leslie and Don: TWG recommends that the SAs review the LTEMP alternatives and provide a report to the TWG and AMWG. The cost of this review is estimated to be approximately \$25,000 and should be funded by appropriations (as is LTEMP funding). In the event appropriated funds are not available for this purpose, TWG recommends that the FY12/14 budget include \$25,000 for this review.

Lori: This issue will resolve itself over the next few weeks. Beverly and Rob are finalizing the peer review plan, and will know if the SAs' will be involved in the peer review. If SAs' are not involved, changes could be made to the budget.

Agreed: AMWG will decide whether to recommend a change to the proposed budget based on the additional information provided by DOI.

### **USGS Budget and Workplan:**

#### **Project A**

12. **P. 57: Project A.4 may be of immediate concern to GCDAMP, especially with the HFE implementation looming in the horizon. Recommend that project should be funded. (\$243,300 FY13, \$249,800 FY14)**

If funding for this project has not been identified, it may need to be discussed at the TWG meeting.

Jack: Will be funded through GCMRC carryover funds.

#### **Project F**

13. **P. 132: F.1, Question – It looks like only one annual trip is being planned. Please clarify whether it is one trip or two. If it is one, please explain why only one trip is needed now when we used to conduct two, and AGFD has provided a rationale for two in past discussions.**

NOTE: This issue was not addressed at the BAHG.

Scott: The intent was for only one trip. Fish PEP recommended considering whether two trips are necessary. There are trade-offs, but as we are looking for long-term trends, we think we can drop it to one trip. Caveat: high turbidity will be problematic. We are re-evaluating this due to a new logistical issue. We may divide this trip into two shorter trips to better accommodate crews.

14. **Proposal: Maintain the annual creel surveys (\$25,000 FY13, \$25,000 FY14)**

- A memo from Bill Stewart on this issue was sent to all TWG members (**Attachment 8h**). Historically, AGFD has funded a creel survey at Lees Ferry. Due to recent budget cuts, they can no longer fund it annually, and there will be no surveys in FY13-14. The 2009 PEP panel

recommended maintaining the survey. These surveys are important to obtain data not gathered with electrofishing. They see the larger fish caught by anglers that are not as vulnerable to electrofishing. They also see what is being harvested, and can assess how management recommendations are affecting the fishery.

Bill said that the creel surveys have been run out of their regional office. With recent budget cuts, they determined that there were more critical needs and have opted not to fund this work. This type of survey is used in fisheries around the world and they fill a gap in some of the other sampling GCMRC doesn't do. In terms of managing fishery, these surveys can provide additional information into the information gathered on trout in Glen Canyon but also on the recreational side of things.

Comments:

- *The only reason we have a trout fishery up there is for the recreation. We don't know what the end user's experience is and this information could provide it. It's a pretty cheap to get it, but if the trout fishermen aren't happy up there because we don't have that fishery, what's the purpose in doing the rest of the trout work. (Yeatts)*
- *When we did our DFCs, we included objectives for this fisheries and the next step was to move to metrics. This is a key part of those metrics on we're performing against those DFCs and it's a very key issue in the metrics to how we are moving along. (Myers)*
- *This is a really a small amount to fund the work, why are we dithering about it? (Harris)*
- *Could we take \$25,000 from the POAHG budget to fund the work? (Barrett)*
- *What's the possibility of doing some cost-sharing? (Harms)*
- *A point of clarification. This relates to a number of federal agencies that are concerned about OMB approval for surveys. I contacted someone at USGS Headquarters on this issue. She told me we could fund this without going through the OMB process IF the USGS did not direct the questions of the survey and that we were not the final storehouse of that data. Without going through that OMB approval process for the survey, we have to be very hands off. (Vanderkooi)*

Shane asked the members to indicate if they were for the proposal using their colored cards.

Results: Red = 1      Yellow = 1      Green =

(RED) Paul said he was inclined to follow AGFD's lead and say the AMP is also operating under a very tight budget and that these surveys would seem to be more of a priority and function of AGFD than the AMP. He questioned if AGFD could do a 50/50 split on funding. Bill said he couldn't commit to this type of arrangement without talking to AGFD management. Chris Harris asked if Paul would be willing to move toward consensus on this project if it was directed to the Department for consideration. Paul agreed to the suggestion.

**Consensus: Maintain the annual creel surveys (\$25,000 FY13, \$25,000 FY14). (to be sent to DOI)**

15. Consider budgetary implications of adding cultural resource science advisor.

**This would cost \$10-25,000. Dave: we could retain a Cultural Resources specialist instead of an environmental specialist.**

**Proposal: Include an additional cultural resources Science Advisor for \$10,000 annually.**

Dave said this relates to the overall protocol for the SA and related budget issues. They can fund between four to six science advisors depending on their budget. They were going to hire some type of environmental science specialist but monies could be used for a cultural resource specialist instead. Referring to page 209 of the paper copy of the budget, Jack said there are five science advisors and each one is allocated \$10,000 a year for their work. Dave said that adding another scientist would be around \$15,000 a year. Jack said that if there proposal goes forward, then it would mean less time for Dave to participate in webinars, conference calls, and meetings.

Shane asked the members to indicate if they were for the proposal using their colored cards.

Results: Yellow = 3      (Ted Kowalski, Leslie James, Craig Ellsworth)

Ted said he could support if it was \$10K because that's the amount Colorado contributes towards the programs they participate with. Shane asked him if he would be agreeable to something saying \$10K a year that would partially fund a SA. It wouldn't meet Dave's needs entirely, but it would allow for some input. Ted said he was agreeable to that change.

Leslie said that was the same issue for her and agreed to the funding. Upon hearing the breakdown of science expertise currently on the SA board, Craig was agreeable to approving the proposal as well.

**Consensus: Include an additional science advisor for \$10,000 annually.**

16. Rewrite the Monitoring and Research Plan.

**Defer discussion until the LTEMP is complete.**

17. Administrative History Project. By way of history, the POAHG developed a white paper for the AMWG's approval, which then went back to the TWG for approval, then to the AMWG for action but was dropped from the subsequent AMWG agenda. Because this could be a fairly expensive effort and there wasn't an AMWG approval, Larry said it would be premature to include in the budget. He suggested that perhaps each of the stakeholders would be willing to contribute to the development of the history but a framework would need to be developed first.

**Shane will send to the AMWG planning team the motion passed by the TWG October 2011 regarding the administrative history project.**

18. Ecosystem response to warming water temperatures.

**Scott: We will be as nimble as possible in responding to experiments.**

19. **Project I – riparian ecology – discuss the logic and justifications. Need to understand the physiology of the plans. Methods don't seem to be adequate.**

Larry is concerned because of the linkage between the terrestrial and riparian ecosystems strongly influences some forms of fish food, responses of the sandbars and the geomorphic development affects what kind of vegetation comes in and ultimately also affecting the recreational opportunities. In reading the scope of the project, he doesn't feel it's very broad and hasn't been conceptually worked through closely enough. There are elements that are perfectly great stuff, the remote system, but for addressing the issue of plant gills, groups of plants respond in a similar fashion to dam operations, there's some physiology there that hasn't been captured. If you try to do that kind of work, just mapping vegetation gives you interesting kind of look at things but one really needs to understand the physiology of the plants. That means doing things like measuring water potential, understanding seed longevity, seed dispersal timing, and how that ties in with vegetation development. The methods proposed don't seem to be very adequate and the projects is based on one paper produced in 2010 with a novel approach of the plant gills story but just doesn't seem to me to be scientifically strong enough. If there is some way to clarify how this can contribute to the vision for an overall ecosystem model, that would be great.

In developing this project, Jack said that Barbara Ralston was trying to be responsive to comments made by stakeholders that riparian vegetation makes a difference on sandbars, dam sites, etc. She wanted to develop a monitoring program that was consistent with the monitoring programs for riparian vegetation elsewhere in the Colorado River Basin. He said riparian vegetation received very little attention in the budget because it was controversial with the NPS. As such, the field work associated with this did not get conducted last year. They endeavored to work more explicitly and directly with the Park Service in addressing their concerns and move forward in a productive way. Jack said he would set up a meeting with Larry, Barbara, and others interested in discussing this project further.

**Answer: This is a collaborative project that proposes new and untested methods. Jack will follow up with Larry, Barb, and NPS staff and anyone else who is interested. Interested people should let Jack know.**

**Motion** (Proposed by Chris Harris, seconded by Jerry Myers): The TWG requests by consensus that the Department of the Interior consider the following issues in the development of the FY2013-14 Biennial

Budget & Workplan from the Bureau of Reclamation and Grand Canyon Monitoring and Research Center:

1. Maintain the annual Lees Ferry Creel Survey (\$25,000 FY13, \$25,000 FY14)
2. Include a cultural resources Science Advisor for \$10,000 annually.

Passed by consensus.

Even though he didn't block consensus on the motion, Paul noted he was still a little uncomfortable with other agencies that have overlapping jurisdictions understandably trying to get money from the AMP.

**Motion** (Proposed by Chris Harris, seconded by Jerry Myers **??? no one moved this motion**): The TWG recommends that AMWG recommend the FY2013-14 Biennial Budget & Workplan as reviewed by TWG on June 20-21, 2012 from the Bureau of Reclamation and Grand Canyon Monitoring and Research Center to the Secretary of the Interior for approval.

Ted expressed concern that the motion should be a little specific as to when the webinar would be scheduled. Shane told him it would probably be difficult to get a quorum of the TWG together in time to send a motion to the AMWG prior to its meeting. He said his report to the AMWG would include the TWG's concerns, but felt the group is probably comfortable enough at this point in time to say they approve the budget pending any specific issues from the group meeting on the riparian issues. Jack said the next iteration of the budget would include a "revision number" on the cover page and a statement about which changes were made to the budget from the version used at today's meeting.

Even though not intending to block consensus on the motion, Mike said he still had reservations about some of the cultural line items, how tribal values would be dealt with, and the reality of a socioeconomics element in the budget.

**Revised Motion** (Proposed by Chris Harris, seconded by Jerry Myers **??? no one moved this motion**): The TWG recommends that AMWG recommend the FY2013-14 Biennial Budget & Workplan from the Bureau of Reclamation and Grand Canyon Monitoring and Research Center, as reviewed by TWG on June 20-21, 2012, to the Secretary of the Interior for approval.

Passed by Consensus.

Larry requested that extirpated species be put on the next TWG meeting agenda.

The final budget results (**Attachment 8i**) were prepared by Ms. Orton following the meeting.

**GUI Update.** Jack informed the group that GCMRC developed a program that can be downloaded from an ftp site which will automatically provide discharge data for the Paria River. The existing model constantly gets updated for sediment inflows. The user can put in a starting computation date and a little box will pop up with information on how many tons of sand have come in and how many tons of silt and clay have come in as well. Scott demonstrated how the model works. Jack said the URL would be sent to Linda and she could forward to the TWG to test.

**ACTION:** Linda will send the GUI link to the TWG. (**Attachment 9**)

**Public Comment:** None

**Adjourned:** 12:15P

Respectfully submitted,

Linda Whetton  
Upper Colorado Regional Office

## Bureau of Reclamation

## General Key to Adaptive Management Program Acronyms

ADWR – Arizona Dept. of Water Resources	KAS – Kanab ambersnail (endangered native snail)
AF – Acre Feet	LCR – Little Colorado River
AGFD – Arizona Game and Fish Department	LRMCP – Lower Colorado River Multi-Species Conservation Program
AIF – Agenda Information Form	LTEP – Long Term Experimental Plan
AMP – Adaptive Management Program	LTEMP – Long-Term Experimental and Management Plan
AMWG – Adaptive Management Work Group	MAF – Million Acre Feet
AOP – Annual Operating Plan	MA – Management Action
BA – Biological Assessment	MATA – Multi-Attribute Trade-Off Analysis
BAHG – Budget Ad Hoc Group	MLFF – Modified Low Fluctuating Flow
BCOM – Biological Conservation Measure	MO – Management Objective
BE – Biological Evaluation	MRP – Monitoring and Research Plan
BHBF – Beach/Habitat-Building Flow	NAU – Northern Arizona University (Flagstaff, AZ)
BHMF – Beach/Habitat Maintenance Flow	NEPA – National Environmental Policy Act
BHTF – Beach/Habitat Test Flow	NHPA – National Historic Preservation Act
BIA – Bureau of Indian Affairs	NPS – National Park Service
BO – Biological Opinion	NRC – National Research Council
BOR – Bureau of Reclamation	O&M – Operations & Maintenance (USBR funding)
CAHG – Charter Ad Hoc Group	PA – Programmatic Agreement
CAPA – Central Arizona Project Association	PEP – Protocol Evaluation Panel
GCT – Grand Canyon Trust	POAHG – Public Outreach Ad Hoc Group
CESU – Cooperative Ecosystems Studies Unit	Powerplant Capacity = 31,000 cfs
cfs – cubic feet per second	R&D – Research and Development
CMINs – Core Monitoring Information Needs	RBT – Rainbow Trout
CRBC – Colorado River Board of California	RFP – Request For Proposals
CRAHG – Cultural Resources Ad Hoc Group	RINs – Research Information Needs
CRCN – Colorado River Commission of Nevada	ROD Flows – Record of Decision Flows
CRE – Colorado River Ecosystem	RPA – Reasonable and Prudent Alternative
CREDA – Colorado River Energy Distributors Assn.	SA – Science Advisors
CRSP – Colorado River Storage Project	Secretary – Secretary of the Interior
DAHG2 – Desired Future Conditions Ad Hoc Group	SCORE – State of the Colorado River Ecosystem
DASA – Data Acquisition, Storage and Analysis	SHPO – State Historic Preservation Office(r)
CWCB – Colorado Water Conservation Board	SOW – Scope of Work
DBMS – Data Base Management System	SPAHG – Strategic Plan Ad Hoc Group
DOE – Department of Energy	SPG – Science Planning Group
DOI – Department of the Interior	SSQs – Strategic Science Questions
DOIFF – Department of the Interior Federal Family	SWCA – Steven W. Carothers Associates
EA – Environmental Assessment	TCD – Temperature Control Device
EIS – Environmental Impact Statement	TCP – Traditional Cultural Property
ESA – Endangered Species Act	TES – Threatened and Endangered Species
FACA – Federal Advisory Committee Act	TMC – Taxa of Management Concern
FEIS – Final Environmental Impact Statement	TWG – Technical Work Group
FRN – Federal Register Notice	UCRC – Upper Colorado River Commission
FWS – United States Fish & Wildlife Service	UDWR – Utah Division of Water Resources
FY – Fiscal Year (October 1 – September 30)	USBR – United States Bureau of Reclamation
GCD – Glen Canyon Dam	USFWS – United States Fish & Wildlife Service
GCT – Grand Canyon Trust	USGS – United States Geological Survey
GCMRC – Grand Canyon Monitoring & Research Center	WAPA – Western Area Power Administration
GCNP – Grand Canyon National Park	WY – Water Year (a calendar year)
GCNRA – Glen Canyon National Recreation Area	
GCPA – Grand Canyon Protection Act	
GLCA – Glen Canyon National Recreation Area	
GRCA – Grand Canyon National Park	
GCRG – Grand Canyon River Guides	
GCWC – Grand Canyon Wildlands Council	
HBC – Humpback Chub (endangered native fish)	
HMF – Habitat Maintenance Flow	
HPP – Historic Preservation Plan	
INs – Information Needs	
KA – Knowledge Assessment (workshop)	

Updated: Sept. 1, 2011